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United States Department of Agriculture

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THE MARKET BASKET

by Bureau of Home Economics, U. S. Department of Agriculture

VITAMIN C

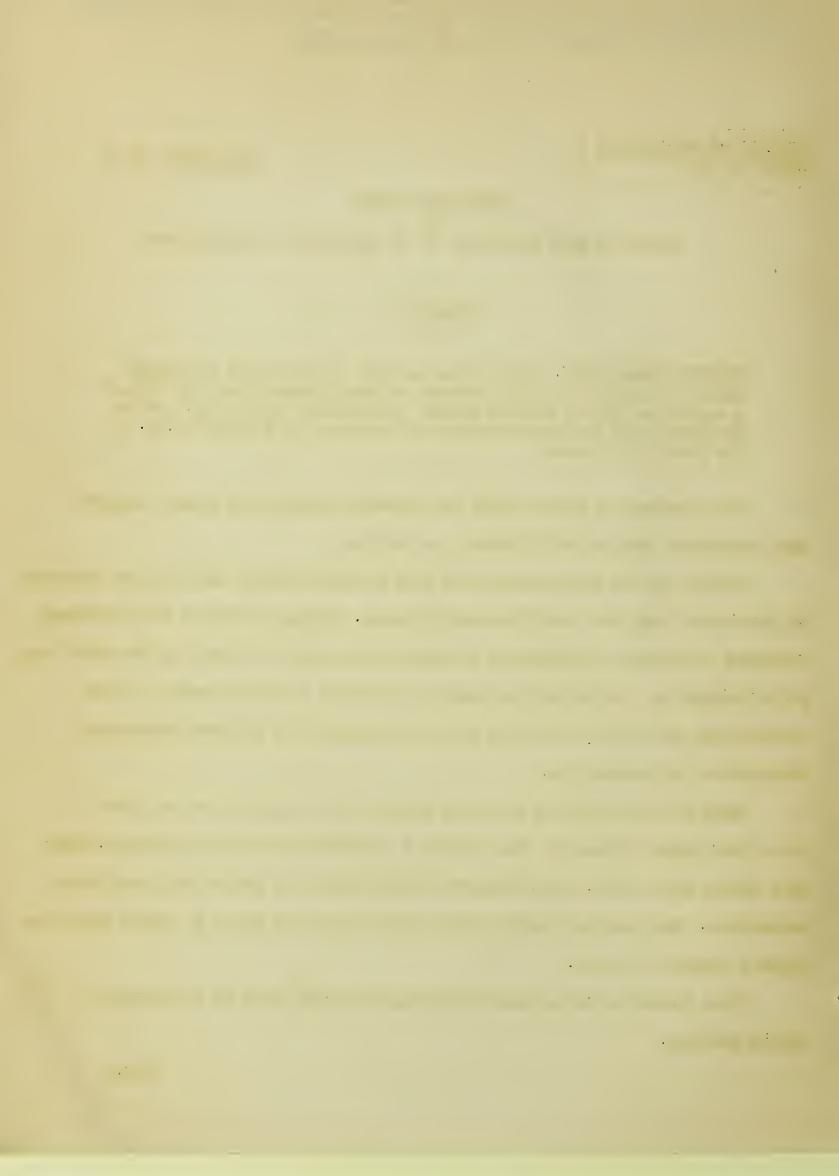
EDITORS PLEASE NOTE: This is the seventh in the series of monthly articles based on the 1939 Yearbook of Agriculture—"Food and Life." A reprint of PART I of this volume, called "Human Nutrition," can be purchased from the Superintendent of Documents in Washington, D. C. The price is 40 cents.

The abundance of fresh fruits and vegetables during the summer suggests many inexpensive ways to add vitamin C to the diet.

Several of the summer fruits are rich in this vitamin, and they are especially low in cost when they come from nearby areas. During the winter it's necessary to depend on oranges or grapefruit or canned tomato juice for much of the day's supply of vitamin C. But during the summer you can get generous amounts of this vitamin from other fruits that you serve for breakfast or dessert—cantaloupe, raspberries, and watermelon.

Many of the vegetables in season right now are also high on the list of foods that supply vitamin C. For vitamin C protection, choose new cabbage, green lima beans, green peas, corn, kohlrabi, summer squash, or any of the green leafy vegetables. The plump red tomatoes that appear again and again in summer meals are another excellent source.

Even lemonade, the popular hot weather beverage, adds to the vitamin C you're getting.



If you take the trouble to select fruits and vegetables rich in this vitamin, see that you lose as little of it as possible in cooking and serving them. Use special care in handling these foods, because vitamin C is one of those will-o-thewisps that is easily lost or destroyed.

When you cook foods, you're bound to lose some vitamin C. So, whenever possible, use raw fruits and vegetables. And when you must cook vegetables, cook them the right way to save all the vitamin C you possibly can.

The most important rule is to use as little water as possible and to serve this cooking water along with the vegetables. Many cooks throw away large amounts of vitamin C because they don't realize that it dissolves in the cooking water.

Another mistake is to cook vegetables too long. Vitamin C is being destroyed during every minute of cooking, so it's wasteful to continue this cooking after the vegetables are tender enough to eat.

And don't add soda to the cooking water, if you want to save the vitamin C.

Old fashioned cookbooks recommended a pinch of soda as a special trick for keeping

vegetables a bright green color. But food experts today explain that the soda is

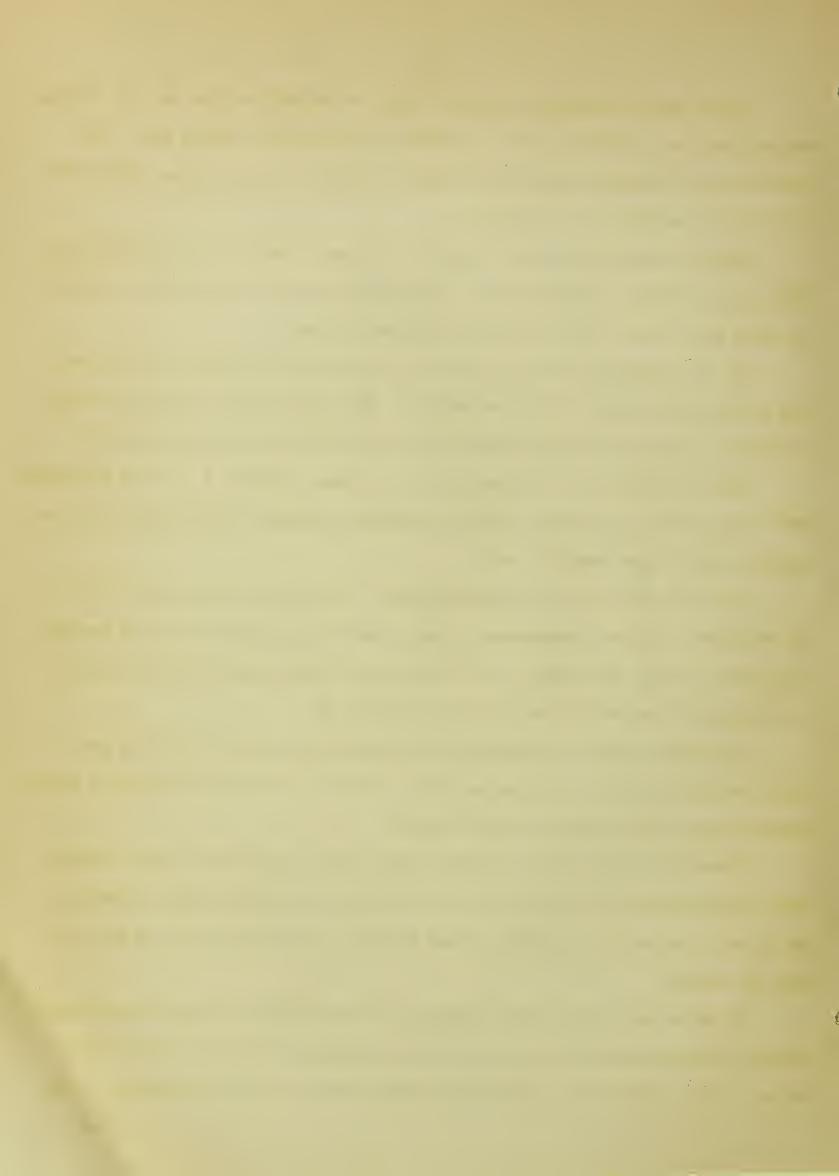
an alkali and increases the destruction of vitamin C.

By cutting fruits or vegetables and leaving them exposed to the air you also lose some vitamin C. But you can avoid this loss if you wait until just before serving time to shred cabbage or dice fruits.

Frozen foods also offer a problem because they lose vitamin C very quickly after they are thawed. So it is best to cook frozen vegetables without thawing.

And if you're using frozen fruits without cooking, plan to serve them as soon as they are thawed.

It seems easy to get enough vitamin C, with so many foods rich in this food value. And most families do get some foods that furnish vitamin C. But a recent survey of city family diets, made by the Federal Bureau of Home Economics, showed



that many of the families studied were not getting enough vitamin C for the very best of health.

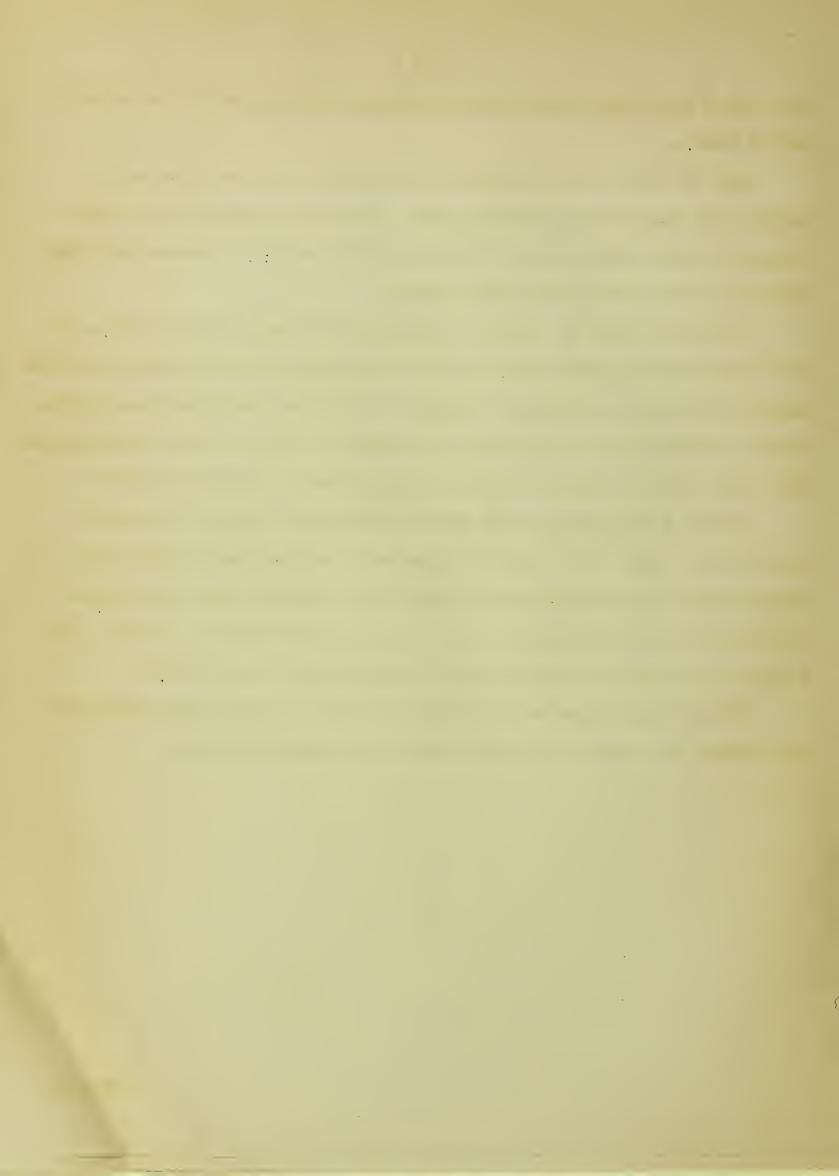
When the diet is low in vitamin C, the person becomes run down; and he vaguely feels that there is something wrong. If the diet continues low in this vitamin, he loses weight and doesn't care much about eating; he becomes tired very easily and often suffers from painful joints.

In advance stages of vitamin C deficiency, the disease scurvy results. We don't hear much about scurvy today, but there are many persons who might have better health if their diets included more vitamin C. For these borderline cases, nutritionists recommend more fresh fruits and vegetables as long as they are in season — with citrus fruits and canned tomatoes to supply vitamin C during the winter.

Vitamin C is important every day all through life, because it cannot be stored in the body. It is especially important to see that small children get enough vitamin C. Doctors recommend orange juice or canned tomato juice as one of the first foods to be added to a baby's diet. And by the time a child is 3 or 4 years old, he should be getting almost as much vitamin C as an adult.

While a woman is pregnant or nursing her baby, she needs extra amounts of the vitamin. Old people, too, must be sure to get enough vitamin C.

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THE MARKET BASKET

by

Bureau of Home Economics, U.S. Department of Agriculture

CANNING SURPLUS VEGETABLES

The family with a garden full of vegetables is indeed fortunate. During the summer, the garden will provide all the fresh vegetables the family wants — plump red tomatoes, full ripe ears of corn, tender young snap beans, and many others.

But the homemaker must also look ahead to the winter months, and plan to save such of the surplus as may be required to meet the family's needs. By canning, preserving, and pickling the surplus from her garden, she can have a well-filled food storage room from which she can round out her winter meals.

Canning, correctly done, is a safe and easy way to preserve vegetables for winter use. Scientific research has now developed exact directions for canning, with variations to suit each different kind of vegetable. Know your method and follow it exactly, and you should have no trouble with your home canning.

The aim in canning is to heat foods sufficiently to kill the bacteria that cause spoilage, and then seal airtight to keep out bacteria. The simplest method is to place the cans or jars of food in a bath of boiling water — processing until the food itself is heated to a temperature of 212 degrees F. This water-bath method of canning is recommended only for acid foods — fruits, tomatoes, and pickled beets. It is not a safe method to use for canning the non-acid vegetables —such as peas, beans, and corn.

Certain bacteria found on non-acid vegetables go into a "spore" form during part of their life cycle; and these spores are very difficult to kill.

Even processing non-acid vegetables for several hours at the boiling point may not destroy spores.

But scientific studies have shown that the spore forms of bacteria will be killed when heated to 240 or 250 degrees F. for a reasonable length of time. To get these higher temperatures, homemakers must use a steam pressure canner. Such a canner holds the steam under pressure, so the temperature is raised above that of boiling water.

Another problem in canning vegetables, is to get them heated through to the center of the container—in the time allotted for processing. When there is a thick mass of vegetables, it may be hard to get the part in the center hot enough to kill the bacteria. This is especially true of some vegetables such as lima beans and cream style corn — partly because they pack so solidly.

In addition to facts about time and temperatures used, there are some important general rules that apply to the canning of all vegetables.

The first rule is to use care in the selection and handling of the vegetables. Get your vegetables fresh from the garden and can them as quickly as possible. The vegetables lose flavor and goodness when they are held over for any length of time. Also be sure to use good quality vegetables, because a bit of decay may spoil an entire batch.

Divide the vegetables up into small lots that you can handle easily. You can work more efficiently if you don't try to do too many things at one time.

Precook your vegetables and have them hot when you put them into the cans.

This precooking shortens the time of processing the food. It also saves the bother of "exhausting" the cans to get out the air before sealing them.

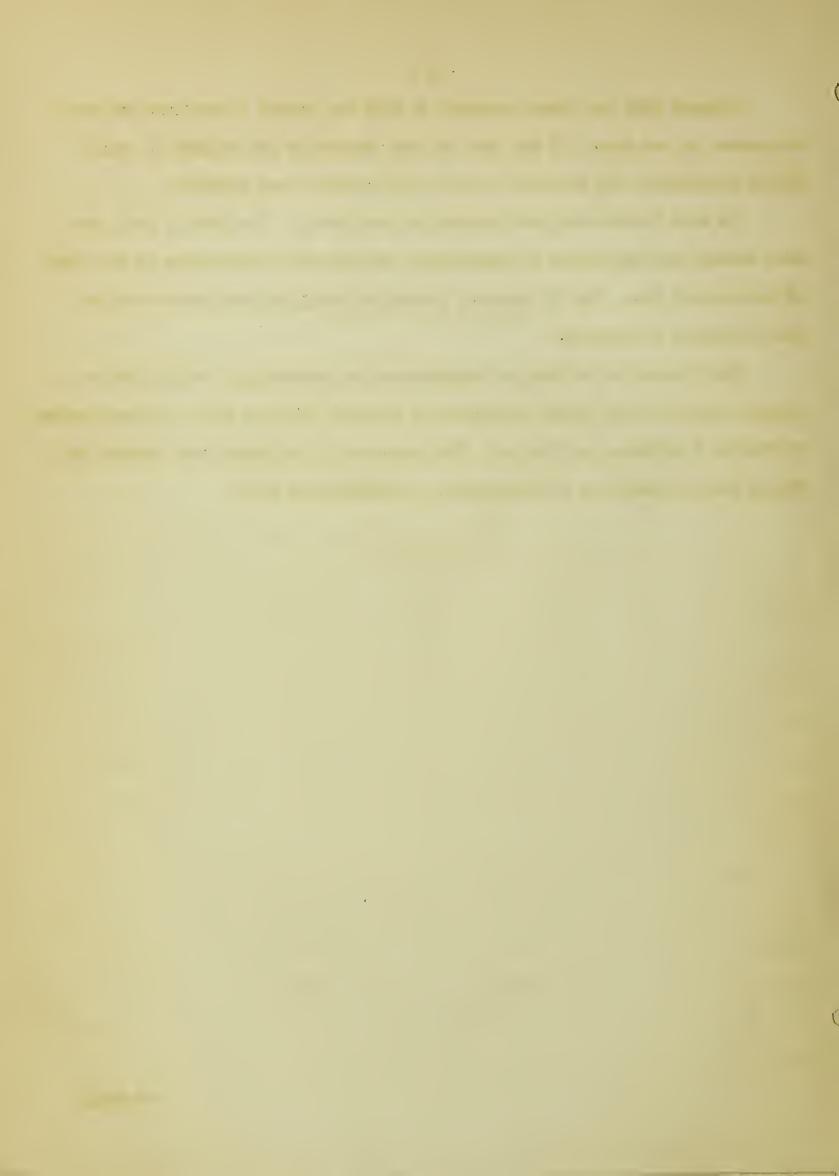


Precook only the amount required to fill the number of cans you are able to process at one time. If the cans of warm vegetables are allowed to stand before processing, the bacteria in them will multiply very rapidly.

Be sure to keep complete records of each batch — the kind of food, the date canned, and the method of processing. Put all this information on the label of each can or jar. Then if anything should go wrong, you can trace back and find the cause of spoilage.

Don't guess at the time or temperature for processing. You'll find a complete timetable and exact directions in Farmers' Bulletin 1762 -- "Home Canning of Fruits, Vegetables, and Meats." This bulletin is available free through the United States Department of Agriculture, in Washington, D. C.

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THE MARKET BASKET

Bureau of Home Economics, U. S. Department of Agriculture

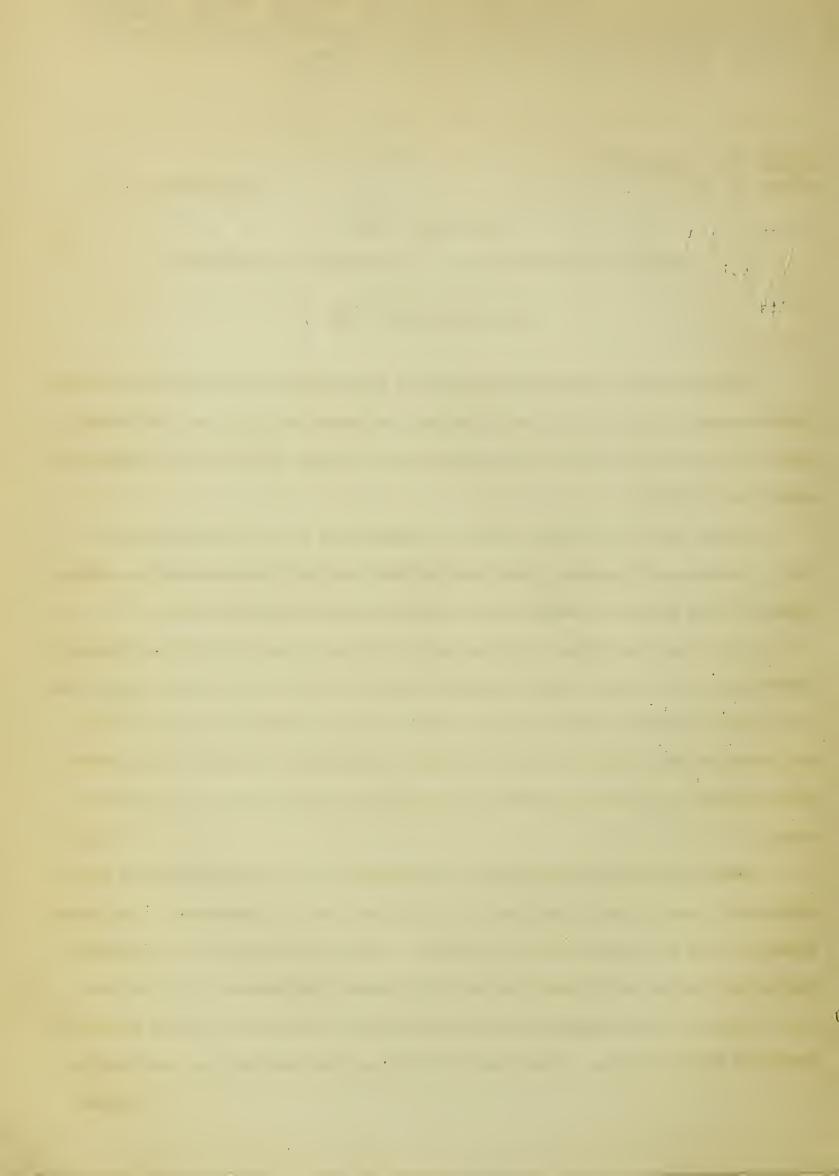
THE WORKINGMAN'S FOOD

"Preparedness" is now the watchword in the American scheme of life. While the Government tackles the general problem of national defense, each individual must do his part to see that the men and women, boys and girls of this country are strong and healthy.

As the wheels of industry speed up good health for the workingman and his family becomes more important than ever before. And good health rests on a foundation of good nutrition, which in turn depends on well-planned diets.

The trained dietitian can plan meals in terms of energy, protein, minerals, and vitamins. But the average homemaker plans meals in terms of meat, vegetables, bread, milk, and other common groups of food. And she wants help in planning well-balanced meals that will fit the family pocketbook. She wants a plan that will help her to select foods that are attractive in appearance and pleasing in taste.

For these American homemakers, the Federal Bureau of Home Economics has worked out a set of diet plans that are simple and easy to understand. The nutritionists first did a great deal of research — they counted calories, estimated the protein needs, and figured out the requirements for minerals and vitamins. Then they took their findings and expressed them in terms of the weekly need for different kinds of foods. From these diet plans, the homemaker can make out her



marketing list, and plan her menus accordingly -- knowing that the meals will supply the family with all the food values needed for good health.

These diet plans have the advantage of being very flexible. They can be adjusted to suit any family — whether there are ten children, or none. They take into consideration the needs of growing children of different ages, as well as adults. And they also make special provision for persons who are very active, either at work or play.

The diet plans are also varied to suit the amount of money the family can afford to spend for food. Families with a limited amount of money find a useful guide in the suggested minimum-cost adequate diet. And to solve the difficult problems of families with very small resources, there is also a restricted diet for emergency use.

When families have an income large enough to meet all their needs comfortably, they can get the best possible returns in health and nutrition by using the liberal diet or the moderate-cost adequate diet. These two diet plans allow for plenty of variety in the choice of foods from day to day.

The aim of each diet plan is to suggest to the family a variety of foods that cover all the needs of good nutrition. At each cost level the need for protein, calories, minerals, and vitamins is taken care of.

Milk has a prominent place in these diet plans because of its outetanding food values — calcium, vitamins A and G, and protein. The daily quota of a quart for children and a pint for adults may be in the form of bottled milk, evaporated milk, dry milk, or cheese. When the amount of money to be spent for food is limited, the family may well consider which form of milk is cheapest.

Eggs are important in all of the diet plans, because they are an excellent source of protein and also furnish some of the important vitamins and minerals.

 There is a generous allowance for vegetables in each diet plan -- especially tomatoes, yellow vegetables, and the green leafy ones. These, like dairy products and eggs, provide some of the necessary vitamins and minerals.

Fruits, both fresh and dried, are another important item in all of the diet plans. In order to get enough vitamin C, there is special emphasis on the citrus fruits and also on tomatoes — although tomatoes are commonly listed as a vegetable.

The body must have plenty of protein for building and repairing tissues.

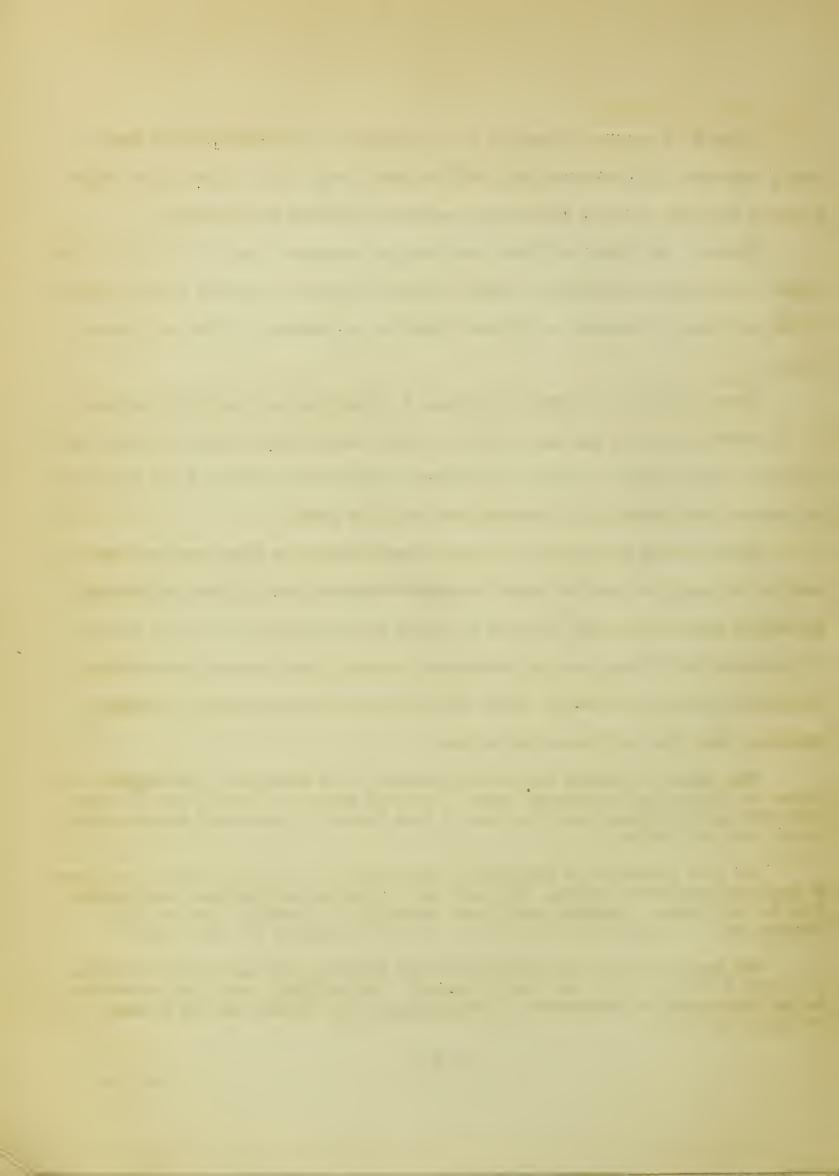
So, in addition to milk and eggs, the diet plans include meat, fish, poultry, and also some dried legumes and nuts. Of course, all of these protein foods also supply some of the minerals and vitamins that the body needs.

When the need for protein, vitamins, and minerals is taken care of, the rest of the money is used for foods that will round out the calories and furnish the energy needed for work. Cereals and other grain products are a good source of calories; and if they are the whole-grain cereals, they furnish some of the vitamins and minerals as well. Other high calorie foods are sweets, including desserts; also fats and foods rich in fat.

Diet plans, as worked out by the Bureau of Home Economics, are helpful guides in planning well-balanced meals. By using them as a pattern, you can make sure that the workingman gets the kind of food that will contribute to his efficiency and good health.

But each homemaker is responsible for working out the individual variations to suit her particular family. She must shop wisely to get the most good quality food for her money. She must cook foods correctly, in order to save the food values. And she must prepare the food so it will look good and taste good.

The Bureau of Home Economics diet plans have been put together in a bulletin, called "Diets to Fit the Family Income." You can get a copy free by writing to the Department of Agriculture in Washington, D. C. Simply ask for Farmers' Bulletin, No. 1757.



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THE MARKET BASKET

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Bureau of Home Economics, U.S. Department of Agriculture

VITAMIN A

EDITORS PLEASE NOTE: This is the eighth in the series of monthly articles based on the 1939 Yearbook of Agriculture—"Food and Life." A reprint of PART I of this volume, called "Human Nutrition" can be purchased from the Superintendent of Documents in Washington, D. C. The price is forty cents.

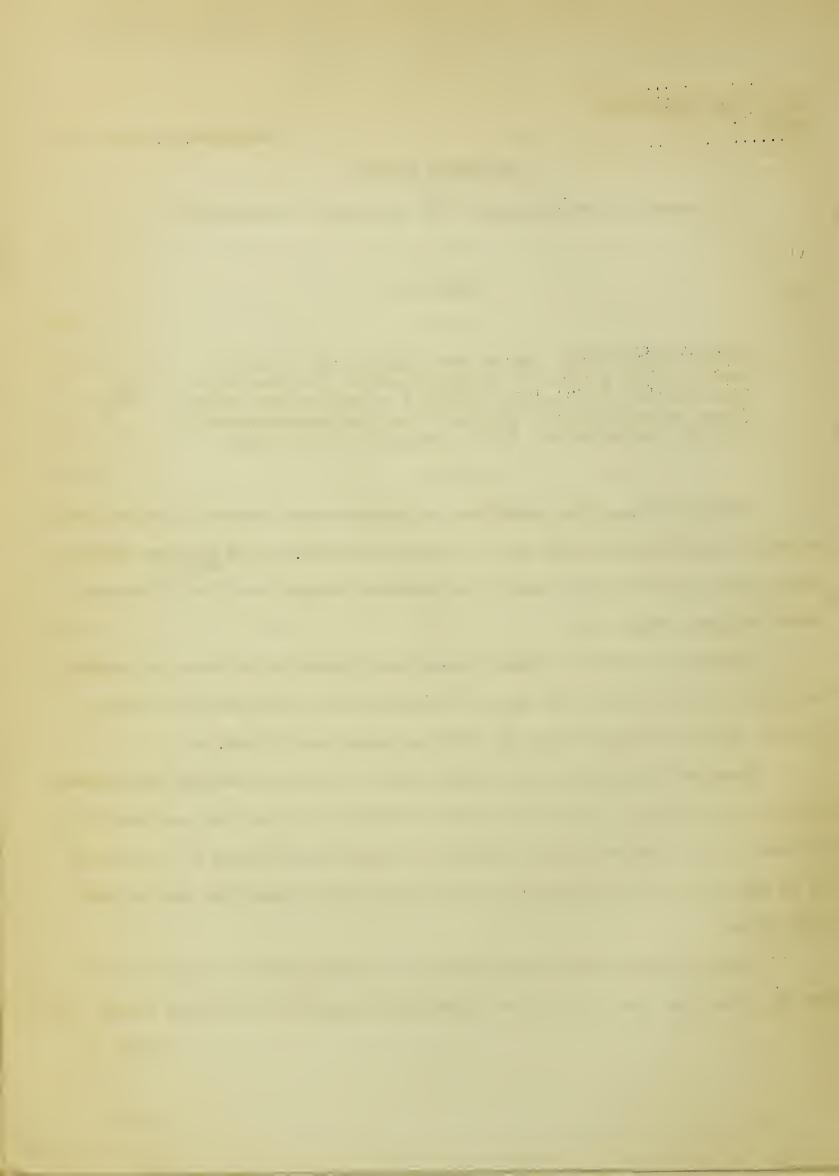
Purely by chance, the physicians of ancient Greece found that animal livers contained something that would cure a certain eye disease. And now, two thousand years later, scientists have named this substance vitamin A and have discovered a great deal more about it.

Vitamin A is found as a pale yellow, oily liquid in the livers of animals and fish, and also in milk and eggs. In addition, the green and yellow plants contain certain substances that the body can change into vitamin A.

Experiments also show that vitamin A will do more for the body than prevent or cure an eye disease. It is absolutely essential for growth and good health all through life. A baby must have a supply of vitamin A even before it is born, so it is important for the expectant mother to have a diet especially rich in this food value.

But any person, old or young, will have serious trouble if his diet is low in vitamin A. One of the first signs that a person is not getting enough

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vitamin A is the gradual development of night blindness — that is, he does not see in dim light as well as normal persons. When the diet is very low in vitamin A, a more severe eye trouble, called xeropthalmia, results.

A deficiency of vitamin A also has an effect on the cells of the skin, which cover every surface of the body, both inside and outside — including the nose, throat, lungs, and other internal cavities and organs. These cells are the body's first line of defense against infections; and when vitamin A is lacking there is likely to be serious trouble because these calls do not function properly.

The woman, who plans meals, wants especially to know which foods furnish vitamin A at a reasonable cost. Fish-liver oil is a very rich source, but there are others too. Beef liver is excellent, and so are the yellow and green veget tables. Highest among the greens are collards, dandelion greens, kale, mustard greens, spinach, and turnip greens. Carrots and sweetpotatoes are also rated extremely high.

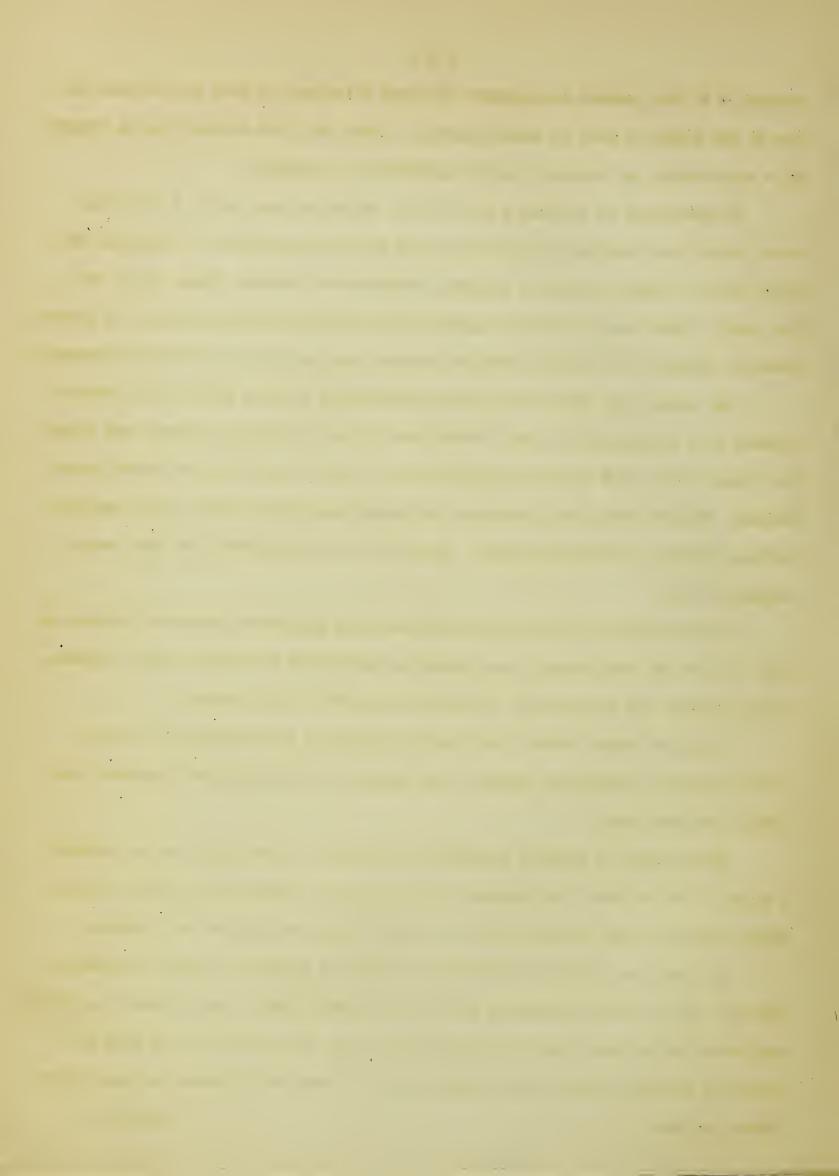
Other green and yellow vegetables are also important sources of vitamin A.

Some of them are snap beans, okra, pumpkin, unbleached asparagus, green lettuce,
yellow squash, and green peas. Tonatoes, too, are a good source.

Among the fresh fruits that furnish vitamin A are muskmelon, mangoes, yellow peaches, persimmons, bananas, and oranges. Dried apricots, peaches, and prunes are also good.

Whole milk, in amounts generally recommended, rates high for its vitamin A value. You can also get generous amounts of this vitamin from cream, butter, whole milk and cream cheeses, and ice cream. Eggs are another good source.

In the plant world the sources of vitamin A follow the green and yellow colors. But in animal products, this is not always true. Deep colored egg yolks and thick yellow cream may not be unusually rich. But both milk and eggs are richer in vitamin A during the summer, when the cows and chickens get more green things to eat.



Vitamin A is one of the more stable of the vitamins, and there is little danger of destroying it by ordinary means of cooking. Even canning and freezing do not have much effect. However, many plant sources rapidly lose vitamin A value when held too long before cooking.

During the summer it's easy to get enough vitamin A -- with fresh fruits and vegetables so plentiful and so reasonable in price. While they are in season, the wise homemaker uses as many as possible of the yellow vegetables, the green leafy vegetables, and the yellow-fleshed fruits. This is real economy, because the body can store the vitamin A for later use.

A small baby gets a good supply of vitamin A from the milk he drinks. But doctors also suggest that you give him additional amounts of the vitamin by gradually adding cod-liver oil, egg yolk, and mashed greens to his diet. As the child grows he needs plenty of milk, and also fruits and vegetables that are rich in vitamin A. The need for vitamin A continues all through life, but it is especially important for the expectant mother and the mother who is nursing her baby.

